Name _____ Period _____

Partner_____

Organic Isomers Lab

Prelab Questions

1) What is a structural isomer? Give an example.

2) What is a cis/trans stereoisomer? Give an example.

Procedure

Build the following molecules using the molecular models. You are told how many isomers of each you need to build. Get them approved and stamped by the instructor. Once you have the correct model, draw a simple diagram of each structure and write name the compound next to it.

1) $C_2H_4Cl_2$ (two isomers)

1a) _____1b) _____

2) C_4H_{10} (two isomers)

2a) _____2b) _____

3)C_4H_9OH (four isomers; must contain an -OH group)
(Hint: look at your answer to number 2 above.)

3a) _____3b) _____3c) _____3d) _____

4) C_4H_6 (two isomers; must have all carbons in a straight chain; must contain a triple bond)
butyne

4a) _____4b) _____

5) C_4H_8 (three isomers; must have all carbons in a straight chain; must contain a double bond)

5a) _____5b) _____5c) _____

6) C_6H_{14} (five isomers) (You don't have enough pieces to build all five at once. As soon as you have figured out all five, bring one over to the instructor, show it and then rearrange the pieces to make the other isomers.)

6a) _____6b) _____6c) _____6d) _____6e) _____